

**REMARKS**

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 1, 2, 5, 7, 8, 9, 15, and 20 are currently being amended. No new matter is added. The claim 2 is amended to correct a typographical error.

This amendment changes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1-20 remain pending in this application.

On page 2 of the Office Action, the Examiner objected to claim 5. Claim 5 has been amended in accordance with the Examiner's comments. Accordingly, withdrawal of the objection to claim 5 is respectfully requested.

On pages 2-4 of the Office Action, claims 1-2, 4, 6, 15-17, and 19 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,706,626 (Huang). The Examiner states:

Regarding to claim 1. A method of using an adhesion precursor in an integrated circuit fabrication process, the method comprising:

providing a gas of material (see col. 5, lines 5-16) over a dielectric material to form an adhesion precursor Layer (112), the dielectric material (104) including an aperture (opening, 108); and

providing a copper Layer (250, see col. 8, lines 51-53) over the adhesion precursor Layer (112).

Regarding to claim 2. [sic] the adhesion precursor Layer includes a barrier material (TiN/TaN, see col. 5, lines 6-16).

Regarding to claim 4, providing a second gas of a second material over the adhesion precursor Layer (see col. 5, lines 38-45).

Regarding to claim 6. [sic] providing a third gas of a third material over a Layer formed by the second gas (see col. 7, lines 10-40, wherein multi-layered metal nitride barrier layer 214 by using MOCVD process, since there are multi-layered barrier formed, it will require multiple gas).

Regarding to claim 15. A method of using an adhesion precursor for chemical vapor deposition, the method comprising:

forming a trench (108) in a dielectric layer (104);

forming a continuous barrier layer (112, see figure 4) above the dielectric layer and along sides of the trench;

depositing copper (122, see figure 8, col. 8, lines 50-54) above the continuous barrier layer, the copper located in the trench forming an integrated circuit feature (see figure 8).

Regarding to claim 16, the continuous barrier layer (112) is formed from a gas having a ternary element (TDMAR or TDEAT, has more than 3 elements, example C/H/Ti/N).

Regarding to claim 17, providing a chemical mechanical polish to level the copper to substantially the same level as the continuous barrier layer above the dielectric layer (see figure 9, col. 5, lines 65-67).

Regarding to claim 19, wherein the feature is a via.

Applicants respectfully traverse the rejection.

On pages 4-5 of the Office Action, the Examiner has rejected claims 3, 11, and 18 under 35 U.S.C. § 103 as being unpatentable over Huang. The Examiner states:

Huang teaches a method of forming an adhesion precursor for CVD deposition. However, the reference does not teach the thickness of the barrier.

The specific thickness range of claim 3, 11, 14, 18 are considered to involve routine optimization while has been held to be within the level of ordinary skill in the art....

Applicants respectfully traverse the rejection.

To advance prosecution, Applicants have amended claim 1 to include a limitation similar to the limitations of original claim 8. The Examiner objected to claim 8 as being allowable if rewritten in independent form. Accordingly, it is respectfully submitted that independent claim 1 and its dependent claims 2-4 and 6 are patentable.

In addition, Applicants have amended claim 5 to be in independent form. The Examiner has objected to claim 5 as being dependent upon a rejected base claim, but allowable if rewritten in independent form. Accordingly, independent claim 5 is allowable.

Claims 7 and 9 have also been rewritten in independent form. Claims 7 and 9 were objected to as being dependent upon a rejected base claim, but allowable if rewritten in independent form. Accordingly, independent claim 7 and its dependent claim 20 and independent claim 9 and its dependent claim 8 are allowable.

Claim 15 has been amended to include the limitation of dependent claim 20. Claim 20 is objected to as being dependent upon a rejected base claim, but allowable if rewritten in independent form. Accordingly, claim 15 and its dependent claims 16-19 are allowable.

The Examiner has indicated that claims 10-14 are allowable.

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Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 06-1447. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to

Deposit Account No. 06-1447. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. § 1.136 and authorize payment of any such extensions fees to Deposit Account No. 06-1447.

Respectfully submitted,

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